

## **Potential for Visualising Ultrafast Structural Changes in Solution**

Richard Neutze

Department of Molecular Biotechnology  
Chalmers University of Technology, Sweden.

A pump-probe diffuse X-ray scattering experiment with 100 ps temporal resolution was recently reported using molecular iodine in solution as a prototype system. The experimental strategy and parameters for that experiment, performed at the ESRF, are described. Emphasis is placed on the significant improvements, both in terms of temporal resolution and with respect to signal-to-noise, which are likely to emerge from the commissioning of an X-ray FEL. A few potential scientific targets for pump-probe studies on photochemical systems in solution using an X-ray FEL are sketched.